

**REMARKS**

This Amendment and Request for Reconsideration is submitted in response to an outstanding Office Action dated November 5, 2003, the shortened statutory period for response having expired on February 5, 2004. Accordingly, a Petition and Fee for Extension of time are included herewith.

I. Status of the Claims

Please amend claims 7-11 and 16, and add new claims 20-34 as indicated above. Claims 1-34 are now pending in the application. Claims 1, 7, 10, 11, and 15-34 are independent claims.

Applicants acknowledge the Examiner's citation of statutory authority as a basis for claim rejections.

II. Rejections under 35 U.S.C. § 101

The Examiner has rejected claim 17 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Examiner states that the claim is directed to a computer program for executing steps. The Examiner states that the claim could be directed to statutory subject matter if directed to a computer readable media embodying the program code.

Applicants respectfully traverse the rejection.

As background, independent claims 1, 7, 10, 11, 15 and 16 are each directed to a method for cache management. Independent claim 18 is directed to a computer readable medium having computer executable software code stored thereon, the code for cache management. Independent claim 19 is directed to a programmed computer for cache management comprising a memory for storing computer executable program code and a processor for executing the stored computer code. Contrary to the Examiner's statement, independent claim 17 is not directed to

simply a computer program, it is directed to computer executable software code transmitted as an information signal, the code for cache management. Applicants submit that in software sale and distribution, code for accomplishing a method may be sold and distributed on a computer readable medium (e.g., claim 18) for later installation on a computer system. The code may also be installed and sold with a computer system (e.g., claim 19). Additionally, it is common for software code to be distributed directly to users by down-load to a computer, without transfer of a computer readable medium. In order to fully protect the various types of sales and distribution activities, applicants have crafted claims to specifically cover sale and download of infringing software code, by directing claim 17 to computer software code **transmitted as an information signal**. Applicants submit that computer executable software code transmitted as an information signal serves a useful purpose just as a computer readable medium serves a useful purpose, and applicants submit that to be statutory, 35 U.S.C. § 101 requires nothing more. For this reason, applicants request withdrawal of the rejection.

III. Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 7-9, 10 and 16 under 35 U.S.C. § 103 as being unpatentable over Frank et al. (U.S. Patent No. 6,021,470) in view of Lomet (U.S. Patent No. 5,596,754). The Examiner has also rejected claims 11-14 under 35 U.S.C. § 103 as being unpatentable over Bourne et al. (U.S. Patent No. 6,584,548) in view of Lomet (U.S. Patent No. 5,596,754). Applicants have amended independent claims 7, 10, 11 and 16 to more clearly describe the invention and respectfully traverse the rejection.

With regard to claim 7, the Examiner states that the combination of Frank and Lomet disclose all of the elements of the claim and it would have been obvious to combine the references to prevent access to the data.

Applicants submit that Frank has a data refresh process that makes no use whatsoever of read/write locking (see figure 3). The read algorithm in Frank (column 5, lines 41-50) makes no mention of locking during reading. The only mention of locking in Frank is done during cache use by clients, not during cache refresh. Additionally, Frank does not seem to teach that locking should be provided as part of the item update process and in fact does not seem to disclose that the cache itself could retrieve incorrect data (Frank guards against clients reading incorrect data but not against the cache itself reading incorrect data).

Applicants submit that Lomet does not disclose or teach use of a lock external to a database system to ensure cache updates in a distributed system where the lock is held in one software process but used to guard resources in another (see column 10, which specifically covers cache management strategies within the confines of a single database system). Furthermore, the focus on the locking mechanism in Lomet does not teach a method for cache item synchronization, it only teaches the appropriate implementation of locking schemes.

Finally, in contrast to the cited references, claim 7 recites locking schemes within a distributed computer system. This is different than the scheme of either Frank or Lomet, and applicants submit that claim 7 is allowable over the combination of references.

The Examiner has rejected claim 10 for the same reasons as claim 7, and for the reasons provided above, applicants submit that the references do not disclose or teach claim 10. For similar reasons, the Examiner has rejected claim 16, and applicants traverse the rejection for the same reasons.

With regard to claim 11, the Examiner states that the combination of Bourne and Lomet disclose all of the elements and that it would be obvious to combine the references to prevent other clients from gaining access to that data.

Applicants submit that the cache in Bourne uses an update method commonly called "Lazy Updates" in response to time-triggered invalidations, in which items are added to the cache only when requests arrive. In Bourne, updates are only done in the context of an externally generated HTTP request (e.g. at the time the data is needed in the cache, not before).

In contrast to the cited references, claim 11 recites determining that a predetermined event has occurred for an update. This is a preemptive update, and helps to obtain deterministic responsiveness in a real-time trading system. Also, the invention of claim 11 achieves concurrent (rather than exclusive) refreshing (rather than invalidation).

Applicants submit that for the reasons provided, claims 7-14 and 16 are allowable over the cited references.

IV. Allowable Subject Matter and New Claims

Applicants acknowledge that the Examiner has allowed claims 1-6, 15, 18 and 19. New claims 20-34 correspond generally to variations of claims 7, 10, 11, 15 and 16 and applicants submit that they are allowable for the same reasons.

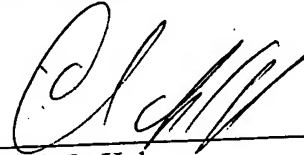
V. Request for Reconsideration

Applicants respectfully submit that the claims of this application are in condition for allowance. Accordingly, reconsideration of the rejection and allowance is requested. If a conference would assist in placing this application in better condition for allowance, the undersigned would appreciate a telephone call at the number indicated.

PATENT

Docket No.: 36287-03201

Respectfully submitted,  
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